IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of	:	
	:	
Lisbeth Illum	:	Examiner: G. Kishore
	:	
Serial No.: 08/065,676	:	
	:	Art Unit: 1502
Filed: May 21, 1993	:	
	:	
For: "SMALL PARTICLE COMPOSITIONS FOR INTRANASAL DRUG DELIVERY"	:	

Supplemental Response

Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

This is supplemental to the Amendment and Response filed by the Applicant on March 21, 1994. It is respectfully requested that the Supplemental Response be considered by the Examiner.

In the Office Action mailed December 20, 1993, The Examiner rejected Claims 1-5, 11 and 13 under 35 USC 102(e) as being anticipated by Illum 4,847,091. The Examiner stated that "Illum discloses the same invention". In Applicant's Amendment and Response filed March 21, the Applicant argued that the present invention was not the same invention as that disclosed in the Illum '091 patent because claim 1 of the present invention is limited specifically to systemically active drugs, whereas the Illum '091 patent is limited to the drug sodium cromoglycate, a drug that is

poorly absorbed into the blood and, therefore, not useful for systemic action. Sodium cromoglycate is not absorbed from the nose into the systemic circulation; rather, it is used for local treatment, for example when administered nasally for treatment in the nasal cavity.

Applicant submits for the Examiner's consideration information on sodium cromoglycate which clearly indicates that it is poorly absorbed from the gastrointestinal tract and, therefore, is effective only when deposited into the lungs or by topical administration for local action. It is not a systemically acting drug for the treatment of disease. It is specifically used for asthma and rhinitis and is also commonly used for reducing symptoms such as nasal congestion via intranasal administration - clearly local uses. It is believed that a review of the enclosed materials will so convince the Examiner. The Examiner's attention is specifically directed to the enclosed highlighted materials which describe sodium cromoglycate as a drug "poorly absorbed from the gastrointestinal tract" and therefore when used for the treatment of disease such as asthma, is "effective only when deposited directly into the airways". Further, when administered intranasally, "less than 7% of the intranasal dose is absorbed", with the majority of the drug being "excreted unchanged in the urine".

Furthermore, Applicant takes this opportunity to reiterate

that claim 1 of the invention recites the limitation that at least 90 wt % of the microspheres of the drug delivery composition have a diameter of between 0.1 microns and 10 microns. This is an important limitation. There exists in the art a prejudice against using microspheres of less than 10 microns for nasal delivery of systemically active drugs. However, the Applicant went against this teaching and discovered very surprisingly that not only could microspheres of less than 10 microns be successfully used for intranasal delivery of systemically acting drugs, but that microspheres so sized provided better absorption and bioavailability of the drugs than the larger microspheres. This unexpected improvement is well supported by the data in the specification, and could in no way be predicted from the art at the time this invention was made -which art specifically taught away from the present composition of claim 1.

In view of the submitted evidence and above discussion, it is believed that the claimed invention is not the same invention as that of Illum '091. Applicant respectfully requests that the

rejection of the claims under 35 USC 102(e) be withdrawn.

Respectfully submitted,

LORUSSO & LOUD

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